WHAT IS CLAIMED IS:

1. An electrode for a polymer electrolyte fuel cell which electrode comprises: a solid polymer electrolyte membrane; electrode layers formed respectively on both faces of the electrode membrane; two reinforcing members which cover respective outer surfaces of the electrode layers; and a sealing member which covers, extending from respective end faces to respective end parts of the reinforcing members, the two reinforcing members, wherein the electrolyte membrane, the electrode layers and the reinforcing members are integrally formed by the sealing member.

2. An electrode for a polymer electrolyte fuel cell which electrode comprises: a solid polymer electrolyte membrane; electrode layers formed respectively on both faces of the electrode membrane; two reinforcing members which cover respective outer surfaces of the electrode layers; and a sealing member which covers, extending from respective end faces to respective end parts of the reinforcing members, the two reinforcing members, wherein the electrolyte membrane, the electrode layers and the reinforcing members are integrally formed by the sealing member, the electrode layer has a polymer electrolyte and catalyst particles formed on a surface of carbon particles, and the reinforcing member comprises a sheet having a permeability to gases and electronic conductivity.

3. The electrode for a polymer electrolyte fuel cell according to claim 1 or 2 wherein the sheet comprises a porous carbon sheet, felt or film paper.

4. The electrode for a polymer electrolyte fuel cell according to any of the claims 1-3 wherein the sealing member comprises at least one material selected from the group consisting of chloroprene rubber, nitrile rubber, silicone rubber, ethylene-propylene rubber, fluororubber, isobutylene rubber, acrylonitrile rubber, and acrylonitrile-butadiene rubber.

5. A polymer electrolyte fuel cell which comprises the electrode according to any of the claims 1-4 and an anode side separator and cathode side separator arranged on both sides of said electrode.

6. A polymer electrolyte fuel cell which comprises: the electrode according to any of the claims 1-4; an anode side separator and cathode side separator arranged on both sides of said electrode; and at least one separator for cooling arranged outside of the separator.

7. A polymer electrolyte fuel cell which comprises a stacked body obtained by successively stacking one or plural units each comprising: the electrode according to any of the claims 1-4; an anode side separator and cathode side separator arranged on both sides of the electrode; and at least one separator for cooling arranged outside of the separator; wherein both ends of the stacked body are the anode side

separator and cathode side separator or the separator for cooling and wherein the fuel cell comprises: current collecting plates arranged on respective outer surface sides of the end side separators; end plates arranged on respective outer surface sides of the current collecting plates; and fastening members which integrally sandwich the stacked body and the current collecting plates through the end plates.

8. A separator for a polymer electrolyte fuel cell which separator comprises: at least one passage for gas and water formed on at least one face of a member comprising a flat plate; supply ports for the gas and water provided so as to communicate with the passage and to pass through the member; and exhaust ports for the gas and water provided so as to communicate with the passage and to pass through the member.

9. A separator for a polymer electrolyte fuel cell which separator comprises: at least one passage for gas and water formed on at least one face of a member comprising a flat plate; supply ports for the gas and water provided so as to communicate with the passage and to pass through the member; exhaust ports for the gas and water provided so as to communicate with the passage and to pass through the member; and a sealing member provided on outer peripheries of the supply port and the exhaust port.

10. A separator for a polymer electrolyte fuel

cell which separator comprises: at least one passage for gas and water formed on at least one face of a member comprising a flat plate; supply ports for the gas and water provided so as to communicate with the passage and to pass through the member; exhaust ports for the gas and water provided so as to communicate with the passage and to pass through the member; a sealing member provided on outer peripheries of the supply port and the exhaust port; and a sealing member provided, being connected to the above-mentioned sealing member, on outer peripheries of the passages.

11. The separator for a polymer electrolyte fuel cell according to any of the claims 8-10 wherein the sealing member comprises at least one material selected from the group consisting of chloroprene rubber, nitrile rubber, silicone rubber, ethylene-propylene rubber, fluororubber, isobutylene rubber, acrylonitrile rubber and acrylonitrile-butadiene rubber.

12. A polymer electrolyte fuel cell comprising the electrode according to any of the claims 1-4 and the separators according to any of the claims 8-11 sandwiching the electrode.

13. A generating system which comprises: a hydrogen gas-storing apparatus or a gas-producing apparatus that produces a hydrogen-containing gas from a hydrocarbon fuel; and a polymer electrolyte fuel cell; wherein the apparatus and the fuel cell are connected with piping that passes the hydrogen-

containing gas or the hydrogen gas and wherein the generating system generates electricity by the action of the hydrogen-containing gas or hydrogen gas supplied from the apparatus and the polymer electrolyte fuel cell comprises the polymer electrolyte fuel cell according to any of the claims 5-7 and claim 12.